

WHAT IS CLAIMED IS:

1. A polarizer formed by dyeing, crosslinking, stretching and drying a hydrophilic polymer film, wherein the polarizer has shrinkage force of at most 4.0 N/cm in an absorption axis direction after being heated at 80°C for 30 minutes.
2. The polarizer according to claim 1, wherein the shrinkage force in the absorption axis direction after being heated at 80°C for 30 minutes ranges from 1.0 N/cm to 3.7 N/cm.
3. The polarizer according to claim 1, wherein the polarizer thickness is at most 25 μm .
4. The polarizer according to claim 3, wherein the polarizer thickness ranges from 10 μm to 18 μm .
5. The polarizer according to claim 1, wherein the hydrophilic polymer film is a polyvinyl alcohol-based film.
6. The polarizer according to claim 5, wherein the polyvinyl alcohol-based film thickness is at most 60 μm .
7. The polarizer according to claim 1, wherein the polyvinyl alcohol has an average polymerization degree ranging from 500 to 10000, and an average saponification degree of at least 75 mol%.
8. A polarizing plate comprising:
a polarizer having a shrinkage force of at most 4.0 N/cm in an absorption axis direction after being heated at 80°C for 30 minutes; and
a protective film laminated on at least one surface of the polarizer, wherein the polarizing plate satisfies a relationship of $0.01 \leq A/B \leq 0.16$ where A denotes a thickness of the polarizer and B denotes a thickness of the protective film.
9. The polarizing plate according to claim 8, satisfying a relationship of $0.05 \leq A/B \leq 0.16$ where A denotes a thickness of the polarizer and B denotes

a thickness of the protective film.

10. The polarizing plate according to claim 8, wherein thickness of the protective film is at least 80 μm .

11. The polarizing plate according to claim 10, wherein thickness of the protective film ranges from 80 μm to 200 μm .

12. The polarizing plate according to claim 10, wherein the protective film is a triacetylcellulose film.

13. The polarizing plate according to claim 8, wherein the protective film and the polarizer are attached by an adhesive.

14. The polarizing plate according to claim 13, wherein the adhesive is a polyvinyl alcohol-based adhesive.

15. The polarizing plate according to claim 13, wherein an additional adhesive layer is formed on at least one surface of the polarizing plate.

16. The polarizing plate according to claim 8, wherein the polarizing plate has a dimensional change rate of not more than $\pm 0.7\%$ in a longitudinal direction (MD) after being heated at 70°C for 120 hours.

17. The polarizing plate according to claim 8 further comprising, at least one optical layer selected from a reflector, a transreflector, a retardation plate, a λ plate, a viewing angle compensating film, and a brightness-enhanced film.

18. The polarizing plate according to claim 17, wherein the polarizing plate and the optical layer are laminated through an adhesive layer.

19. A liquid crystal display comprising:
a liquid crystal cell; and
a polarizing plate disposed on at least one surface of the liquid crystal cell, wherein the polarizing plate comprises:
a polarizer having a shrinkage force of at most 4.0 N/cm in an

absorption axis direction after being heated at 80°C for 30 minutes; and
a protective film laminated on at least one surface of the polarizer,
wherein the polarizing plate satisfies a relationship of $0.01 \leq A/B \leq 0.16$
where A denotes a thickness of the polarizer and B denotes a thickness of the
protective film.

20. The liquid crystal display according to claim 19, wherein the liquid
crystal cell comprises at least one substrate selected from a glass substrate
and a plastic substrate.